

IN THE CLAIMS:

1. (Currently Amended) A light emitting display device comprising:
a base film including a substance with a photocatalytic function formed on a substrate;
a gate electrode formed over and in direct contact with the base film;
a gate insulating layer formed over the gate electrode;
a semiconductor layer and a first electrode formed over the gate insulating layer;
an insulating layer covering an edge portion of the semiconductor layer;
a wiring layer formed over the semiconductor layer and the insulating layer;
a partition wall covering an edge portion of the first electrode and the wiring layer;
an electroluminescent layer over the first electrode; and
a second electrode over the electroluminescent layer,
wherein the wiring layer covers the edge portion of the first electrode, ~~and~~
~~wherein the substance with the photocatalytic function contains an oxygen defect.~~

2. (Currently Amended) A light emitting display device comprising:
a base film including a substance with a photocatalytic function formed on a substrate;
a wiring layer and a first electrode formed over and in direct contact with the base film;
a semiconductor layer formed over the wiring layer;
a gate insulating layer formed over the semiconductor layer;
a gate electrode formed over the gate insulating layer;
a partition wall covering an edge portion of the first electrode and the wiring layer;
an electroluminescent layer over the first electrode; and
a second electrode over the electroluminescent layer,
wherein the wiring layer covers the edge portion of the first electrode, and
~~wherein the substance with the photocatalytic function contains an oxygen defect~~

wherein the substance is selected from cadmium selenide (CdSe), potassium tantalite (KTaO₃), cadmium sulfide (CdS), zirconium oxide (ZrO₂), niobium oxide (Nb₂O₅), and tungsten oxide (WO₃).

3. (Currently Amended) A light emitting display device comprising:
a base film including a substance with a photocatalytic function formed on a substrate;
a gate electrode formed over and in direct contact with the base film;
a gate insulating layer formed over the gate electrode;
a semiconductor layer and a first electrode formed over the gate insulating layer;
an insulating layer covering an edge portion of the semiconductor layer;
a wiring layer formed over the semiconductor layer and the insulating layer;
a partition wall covering an edge portion of the first electrode and the wiring layer;
an electroluminescent layer over the first electrode; and
a second electrode over the electroluminescent layer,
wherein the first electrode covers an edge portion of the wiring layer, ~~and~~
~~wherein the substance with the photocatalytic function contains an oxygen defect.~~

4. (Currently Amended) A light emitting display device comprising:
a base film including a substance with a photocatalytic function formed on a substrate;
a wiring layer and a first electrode formed over and in direct contact with the base film;
a semiconductor layer formed over the wiring layer;
a gate insulating layer formed over the semiconductor layer;
a gate electrode formed over the gate insulating layer;
a partition wall covering an edge portion of the first electrode and the wiring layer;
an electroluminescent layer over the first electrode; and
a second electrode over the electroluminescent layer,
wherein the first electrode covers an edge portion of the wiring layer, and
~~wherein the substance with the photocatalytic function contains an oxygen defect~~

wherein the substance is selected from cadmium selenide (CdSe), potassium tantalite (KTaO₃), cadmium sulfide (CdS), zirconium oxide (ZrO₂), niobium oxide (Nb₂O₅), and tungsten oxide (WO₃).

5. (Previously Presented) A light emitting display device according to any one of claims 1 to 4, wherein the substance having the photocatalytic function comprises titanium oxide.

6. (Currently Amended) A light emitting display device comprising:
a conductive layer including a refractory metal over a substrate having an insulating surface;
a gate electrode formed over and in direct contact with the conductive layer;
a gate insulating layer formed over the gate electrode;
a semiconductor layer and a first electrode formed over the gate insulating layer;
an insulating layer covering an edge portion of the semiconductor layer;
a wiring layer formed over the semiconductor layer and the insulating layer;
a partition wall covering an edge portion of the first electrode and the wiring layer;
an electroluminescent layer over the first electrode; and
a second electrode over the electroluminescent layer,
wherein the wiring layer covers the edge portion of the first electrode, and
wherein the refractory metal is selected from the group consisting of Ti (titanium), W (tungsten), Cr (chromium), Al (aluminum), Ta (tantalum), Ni (nickel), Zr (zirconium), Hf (hafnium), V (vanadium), Ir (iridium), Nb (niobium), Pd (lead), Pt (platinum), Mo (molybdenum), Co (cobalt), and Rh (rhodium).

7. (Currently Amended) A light emitting display device comprising:
a conductive layer including a refractory metal over a substrate having an insulating surface;
a wiring layer and a first electrode formed over and in direct contact with the conductive layer;
a semiconductor layer formed over the wiring layer;
a gate insulating layer formed over the semiconductor layer;

a gate electrode formed over the gate insulating layer;
a partition wall covering an edge portion of the first electrode and the wiring layer;
an electroluminescent layer over the first electrode; and
a second electrode over the electroluminescent layer,
wherein the wiring layer covers the edge portion of the first electrode, and
wherein the refractory metal is selected from the group consisting of ~~Ti (titanium)~~, W (tungsten), Cr (chromium), Al (aluminum), Ta (tantalum), Ni (nickel), Zr (zirconium), Hf (hafnium), V (vanadium), Ir (iridium), Nb (niobium), Pd (lead), Pt (platinum), Mo (molybdenum), Co (cobalt), and Rh (rhodium).

8. (Currently Amended) A light emitting display device comprising:
a conductive layer including a refractory metal over a substrate having an insulating surface;
a gate electrode formed over and in direct contact with the conductive layer;
a gate insulating layer formed over the gate electrode;
a semiconductor layer and a first electrode formed over the gate insulating layer;
an insulating layer covering an edge portion of the semiconductor layer;
a wiring layer formed over the semiconductor layer and the insulating layer;
a partition wall covering an edge portion of the first electrode and the wiring layer;
an electroluminescent layer over the first electrode; and
a second electrode over the electroluminescent layer,
wherein the first electrode covers an edge portion of the wiring layer, and
wherein the refractory metal is selected from the group consisting of Ti (titanium), W (tungsten), Cr (chromium), Al (aluminum), Ta (tantalum), Ni (nickel), Zr (zirconium), Hf (hafnium), V (vanadium), Ir (iridium), Nb (niobium), Pd (lead), Pt (platinum), Mo (molybdenum), Co (cobalt), and Rh (rhodium).

9. (Currently Amended) A light emitting display device comprising:
a conductive layer including a refractory metal over a substrate having an insulating surface;
a wiring layer and a first electrode formed over and in direct contact with the conductive layer;

a semiconductor layer formed over the wiring layer;
a gate insulating layer formed over the semiconductor layer;
a gate electrode formed over the gate insulating layer;
a partition wall covering an edge portion of the first electrode and the wiring layer;
an electroluminescent layer over the first electrode; and
a second electrode over the electroluminescent layer,
wherein the first electrode covers an edge portion of the wiring layer, and
wherein the refractory metal is selected from the group consisting of ~~Ti (titanium)~~, W (tungsten), Cr (chromium), Al (aluminum), Ta (tantalum), Ni (nickel), Zr (zirconium), Hf (hafnium), V (vanadium), Ir (iridium), Nb (niobium), Pd (lead), Pt (platinum), Mo (molybdenum), Co (cobalt), and Rh (rhodium).

10. (Canceled)

11. (Previously Presented) A light emitting display device according to any one of claims 1 to 4 and 6 to 9, wherein the gate electrode and the wiring layer are made of a material selected from the group consisting of silver, gold, copper, and indium tin oxide.

12. (Previously Presented) A light emitting display device according to any one of claims 1 to 4 and 6 to 9, wherein the semiconductor layer is a semi-amorphous semiconductor containing hydrogen and halogen and having a crystal structure.

13. (Previously Presented) A TV set including a display screen having the light emitting display device according to any one of claims 1 to 4 and 6 to 9.

14. (Currently Amended) A method for manufacturing a light emitting display device, comprising:

forming a base film including a substance with a photocatalytic function on a substrate;

forming a gate electrode over and in contact with the base film having an insulating surface by a first droplet discharge method;

forming a gate insulating layer over the gate electrode;

forming a semiconductor layer over the gate insulating layer;
forming an insulating layer covering an edge portion of the semiconductor layer;
forming a first electrode over the gate insulating layer by a second droplet discharge method;
forming a wiring layer over the semiconductor layer and the insulating layer by a third droplet discharge method to cover an edge portion of the first electrode;
forming a partition wall to cover the edge portion of the first electrode and the wiring layer;
forming an electroluminescent layer over the first electrode; and
forming a second electrode over the electroluminescent layer by a fourth droplet discharge method;
~~wherein the substance with the photocatalytic function contains an oxygen defect.~~

15. (Currently Amended) A method for manufacturing a light emitting display device, comprising:

forming a base film including a substance with a photocatalytic function on a substrate;
forming a first electrode over and in direct contact with the base film having an insulating surface by a first droplet discharge method;
forming a wiring layer over and in contact with the base film having ~~[[an]]~~ the insulating surface by a second droplet discharge method to cover an edge portion of the first electrode;
forming a semiconductor layer over the wiring layer;
forming a gate insulating layer over the semiconductor layer;
forming a gate electrode over the gate insulating layer by a third droplet discharge method;
forming a partition wall to cover the edge portion of the first electrode and the wiring layer;
forming an electroluminescent layer over the first electrode; and
forming a second electrode over the electroluminescent layer by a fourth droplet discharge method,
~~wherein the substance with the photocatalytic function contains an oxygen defect~~

wherein the substance is selected from cadmium selenide (CdSe), potassium tantalite (KTaO₃), cadmium sulfide (CdS), zirconium oxide (ZrO₂), niobium oxide (Nb₂O₅), and tungsten oxide (WO₃).

16. (Currently Amended) A method for manufacturing a light emitting display device, comprising:

forming a base film including a substance with a photocatalytic function on a substrate;

forming a gate electrode in direct contact with the base film having an insulating surface by a first droplet discharge method;

forming a gate insulating layer over the gate electrode;

forming a semiconductor layer over the gate insulating layer;

forming an insulating layer covering an edge portion of the semiconductor layer;

forming a wiring layer over the semiconductor layer and the insulating layer by a second droplet discharge method;

forming a first electrode over the gate insulating layer by a third droplet discharge method to cover an edge portion of the wiring layer;

forming a partition wall to cover an edge portion of the first electrode and the wiring layer;

forming an electroluminescent layer over the first electrode; and

forming a second electrode over the electroluminescent layer by a fourth droplet discharge method;

~~wherein the substance with the photocatalytic function contains an oxygen defect.~~

17. (Previously Presented) A method for manufacturing a light emitting display device, comprising:

forming a base film including a substance with a photocatalytic function on a substrate;

forming a wiring layer over and in direct contact with the base film having an insulating surface by a first droplet discharge method;

forming a first electrode over and in direct contact with the base film having ~~[[an]]~~ the insulating surface by a second droplet discharge method to cover an edge portion of the wiring layer;

forming a semiconductor layer over the wiring layer;

forming a gate insulating layer over the semiconductor layer;

forming a gate electrode over the gate insulating layer by a third droplet discharge method;

forming a partition wall to cover an edge portion of the first electrode and the wiring layer;

forming an electroluminescent layer over the first electrode; and

forming a second electrode over the electroluminescent layer by a fourth droplet discharge method,

~~wherein the substance with the photocatalytic function contains an oxygen defect~~
wherein the substance is selected from cadmium selenide (CdSe), potassium tantalite (KTaO₃), cadmium sulfide (CdS), zirconium oxide (ZrO₂), niobium oxide (Nb₂O₅), and tungsten oxide (WO₃).

18. (Previously Presented) A method for manufacturing a light emitting display device according to any one of claims 14 to 17, wherein titanium oxide is used as the substance having the photocatalytic function.

19. (Currently Amended) A method for manufacturing a light emitting display device, comprising:

forming a conductive layer including a refractory metal over a substrate having an insulating surface;

forming a gate electrode over and in direct contact with the conductive layer by a first droplet discharge method;

forming a gate insulating layer over the gate electrode;

forming a semiconductor layer over the gate insulating layer;

forming an insulating layer covering an edge portion of the semiconductor layer;

forming a first electrode over the gate insulating layer by a second droplet discharge method;

forming a wiring layer over the semiconductor layer and the insulating layer by a third droplet discharge method to cover an edge portion of the first electrode;

forming a partition wall to cover the edge portion of the first electrode and the wiring layer;

forming an electroluminescent layer over the first electrode; and

forming a second electrode over the electroluminescent layer by a fourth droplet discharge method,

wherein the refractory metal is selected from the group consisting of Ti (titanium), W (tungsten), Cr (chromium), Al (aluminum), Ta (tantalum), Ni (nickel), Zr (zirconium), Hf (hafnium), V (vanadium), Ir (iridium), Nb (niobium), Pd (lead), Pt (platinum), Mo (molybdenum), Co (cobalt), and Rh (rhodium).

20. (Currently Amended) A method for manufacturing a light emitting display device, comprising:

forming a conductive layer including a refractory metal over a substrate having an insulating surface;

forming a first electrode over and in direct contact with the conductive layer by a first droplet discharge method;

forming a wiring layer over and in direct contact with the conductive layer by a second droplet discharge method to cover an edge portion of the first electrode;

forming a semiconductor layer over the wiring layer;

forming a gate insulating layer over the semiconductor layer;

forming a gate electrode over the gate insulating layer by a third droplet discharge method;

forming a partition wall to cover the edge portion of the first electrode and the wiring layer;

forming an electroluminescent layer over the first electrode; and

forming a second electrode over the electroluminescent layer by a fourth droplet discharge method,

wherein the refractory metal is selected from the group consisting of ~~Ti (titanium)~~, W (tungsten), Cr (chromium), Al (aluminum), Ta (tantalum), Ni (nickel), Zr (zirconium), Hf

(hafnium), V (vanadium), Ir (iridium), Nb (niobium), Pd (lead), Pt (platinum), Mo (molybdenum), Co (cobalt), and Rh (rhodium).

21. (Currently Amended) A method for manufacturing a light emitting display device, comprising:

- forming a conductive layer including a refractory metal over a substrate having an insulating surface;

- forming a gate electrode over and in direct contact with the conductive layer by a first droplet discharge method;

- forming a gate insulating layer over the gate electrode;

- forming a semiconductor layer over the gate insulating layer;

- forming an insulating layer covering an edge portion of the semiconductor layer;

- forming a wiring layer over the semiconductor layer and the insulating layer by a second droplet discharge method;

- forming a first electrode over the gate insulating layer by a third droplet discharge method to cover an edge portion of the wiring layer;

- forming a partition wall to cover an edge portion of the first electrode and the wiring layer;

- forming an electroluminescent layer over the first electrode; and

- forming a second electrode over the electroluminescent layer by a fourth droplet discharge method,

wherein the refractory metal is selected from the group consisting of Ti (titanium), W (tungsten), Cr (chromium), Al (aluminum), Ta (tantalum), Ni (nickel), Zr (zirconium), Hf (hafnium), V (vanadium), Ir (iridium), Nb (niobium), Pd (lead), Pt (platinum), Mo (molybdenum), Co (cobalt), and Rh (rhodium).

22. (Currently Amended) A method for manufacturing a light emitting display device, comprising:

- forming a conductive layer including a refractory metal over a substrate having an insulating surface;

- forming a wiring layer over and in direct contact with the conductive layer by a first droplet discharge method;

forming a first electrode over and in direct contact with the conductive layer by a second droplet discharge method to cover an edge portion of the wiring layer;

forming a semiconductor layer over the wiring layer;

forming a gate insulating layer over the semiconductor layer;

forming a gate electrode over the gate insulating layer by a third droplet discharge method;

forming a partition wall to cover an edge portion of the first electrode and the wiring layer;

forming an electroluminescent layer over the first electrode; and

forming a second electrode over the electroluminescent layer by a fourth droplet discharge method,

wherein the refractory metal is selected from the group consisting of ~~Ti (titanium)~~, W (tungsten), Cr (chromium), Al (aluminum), Ta (tantalum), Ni (nickel), Zr (zirconium), Hf (hafnium), V (vanadium), Ir (iridium), Nb (niobium), Pd (lead), Pt (platinum), Mo (molybdenum), Co (cobalt), and Rh (rhodium).

23. (Canceled)

24. (Previously Presented) A method for manufacturing a light emitting display device according to any one of claims 14 to 17, 19 to 21, and 22, wherein the gate electrode and the wiring layer comprise a material selected from the group consisting of silver, gold, copper, and indium tin oxide.

25. (Previously Presented) A method for manufacturing a light emitting display device according to any one of claims 14 to 17, 19 to 21, and 22, wherein the semiconductor layer comprises a semi-amorphous semiconductor containing hydrogen and halogen and having a crystal structure.

26. (New) A light emitting display device according to any one of claims 1 to 4, and 14 to 17, wherein the substance with the photocatalytic function contains an oxygen